

AMENDMENTS TO THE CLAIMS

This listing of claims will replace all prior versions and listings of claims in the application:

LISTING OF CLAIMS:

1. (original): An information processing terminal system comprising:

an information processing terminal; and

a transmitting and receiving unit which can be attached to or detached from said information processing terminal,

wherein said transmitting and receiving unit comprises:

a transmission and reception processing section;

a demodulation section;

a modulation section and a baseband processing section,

when said transmitting and receiving unit is attached to said information processing terminal, said transmission and reception processing section outputs a reception modulation wave signal from a network to said demodulation section and transmits a transmission modulation wave signal from said modulation section to the network,

said demodulation section converts the reception modulation wave signal from said transmission and reception processing section into a reception analog baseband signal,

said baseband processing section converts the reception analog baseband signal into a reception digital signal to output to said information processing terminal, and converts a

transmission digital signal from said information processing terminal into a transmission analog baseband signal,

said modulation section converts the transmission analog baseband signal into the transmission modulation wave signal,

said baseband processing section and said information processing terminal operate in synchronization with a clock, and

the reception digital signal contains a reception data, and the transmission digital signal contains a transmission data.

2. (original): The information processing terminal system according to claim 1, wherein said baseband processing section converts the reception analog baseband signal into a reception digital baseband signal as the reception digital signal to output to said information processing terminal; and converts a transmission digital baseband signal as the transmission digital signal from said information processing terminal into the transmission analog baseband signal, and

said information processing terminal converts the reception digital baseband signal from said baseband processing section into the reception data and converts the transmission data into the transmission digital baseband signal.

3. (original): The information processing terminal system according to claim 2, wherein said information processing terminal comprises:

an interface; and

a control unit configured to convert the reception digital baseband signal supplied through said interface from said baseband processing section into the reception data and the transmission data into the transmission digital baseband signal to output to said baseband processing section through said interface, and

said demodulation section generates and outputs a reception symbol clock having a frequency to said baseband processing section, said interface and said control unit as a clock.

4. (original): The information processing terminal system according to claim 2, wherein said information processing terminal comprises:

an interface; and

a control unit configured to convert the reception digital baseband signal supplied through said interface from said baseband processing section into the reception data, and to convert the transmission data into said transmission digital baseband signal to output to said baseband processing section through said interface,

said transmitting and receiving unit further comprises a clock generator,

said demodulation section generates and outputs a reception symbol clock having a frequency to said clock generator,

said clock generator generates a second reception symbol clock based on the reception symbol clock from said demodulation section to output to said baseband processing section, said interface and said control unit as a clock, and

the second reception symbol clock is synchronous with the reception symbol clock and has a frequency different from a frequency of the reception symbol clock.

5. (original): The information processing terminal system according to claim 2, wherein said information processing terminal comprises:

an interface; and

a control unit configured to convert the reception digital baseband signal supplied through said interface from said baseband processing section into the reception data; and to convert the transmission data into the transmission digital baseband signal to output to said baseband processing section through said interface; and

a clock generator,

said demodulation section generates and outputs a reception symbol clock having a frequency to said baseband processing section, said interface and said clock generator as a clock,

said clock generator receives the reception symbol clock from the demodulation section as a first clock, generates and outputs a second clock synchronous with the first clock to said control unit as a clock, and generates the second clock through self-oscillation to output to said control unit as a clock, when the first clock is not supplied.

6. (original): The information processing terminal system according to claim 2, wherein said information processing terminal comprises:

an interface; and

a control unit configured to convert the reception digital baseband signal supplied through said interface from said baseband processing section into the reception data; and to convert the transmission data into the transmission digital baseband signal to output to said baseband processing section through said interface,

said transmitting and receiving unit further comprises a clock generator,

said transmission and reception processing section generates and outputs a reference signal having a frequency to said clock generator,

said clock generator recovers a carrier of the reception modulation wave signal based on the reference signal from said transmission and reception processing section to output to said demodulation section; and generates and outputs a reception symbol clock to said baseband processing section, said interface and said control unit as a clock,

said reception symbol clock is synchronous with the reference signal, and

said demodulation section, said baseband processing section, said interface and said control unit operate in synchronization with the reception symbol clock.

7. (original): The information processing terminal system according to claim 2, wherein said information processing terminal comprises:

an interface; and

a control unit configured to convert the reception digital baseband signal supplied through said interface from said baseband processing section into the reception data; and to

convert the transmission data into the transmission digital baseband signal to output to said baseband processing section through said interface,

said transmitting and receiving unit further comprises a clock generator, and

said clock generator generates a clock through self-oscillation to output to said baseband processing section, said interface and said control unit.

8. (original): The information processing terminal system according to claim 2, wherein said information processing terminal comprises:

an interface;

a control unit configured to convert the reception digital baseband signal supplied through said interface from said baseband processing section into the reception data; and

a clock generator, and

said clock generator generates a clock through self-oscillation to output to said baseband processing section, said interface and said control unit.

9. (original): The information processing terminal system according to claim 1, wherein said baseband processing section converts the reception analog baseband signal into the reception data as the reception digital signal to output to said information processing terminal and converts the transmission data as the transmission digital signal from said information processing terminal into the transmission analog baseband signal.

10. (original): The information processing terminal system according to claim 9, wherein said information processing terminal comprises:

an interface; and

a control unit configured to receive the reception data through said interface from said baseband processing section and to output the transmission data to said baseband processing section through said interface, and

said demodulation section generates and outputs a reception symbol clock having a frequency to said baseband processing section, said interface and said control unit as a clock.

11. (original): The information processing terminal system according to claim 9, wherein said information processing terminal comprises:

an interface; and

a control unit configured to receive the reception data through said interface from said baseband processing section and to output the transmission data to said baseband processing section through said interface,

said transmitting and receiving unit further comprises a clock generator,

said demodulation section generates and outputs a reception symbol clock having a frequency to said clock generator,

said clock generator generates a second reception symbol clock based on the reception symbol clock from said demodulation section to output to said baseband processing section, said interface and said control unit as a clock, and

said second reception symbol clock is synchronous with the reception symbol clock and has a frequency different from the frequency of the reception symbol clock.

12. (original): The information processing terminal system according to claim 9, wherein said information processing terminal comprises:

an interface;

a control unit configured to receive the reception data through said interface from said baseband processing section and to output the transmission data to said baseband processing section through said interface; and

a clock generator,

said demodulation section generates and outputs a reception symbol clock having a frequency to said baseband processing section, said interface and said clock generator as the clock, and

said clock generator receives the reception symbol clock from said demodulation section as a first clock, generates and outputs a second clock synchronous with the first clock to said control unit as a clock, and generates the second clock through self-oscillation to output to said control unit as the clock when the first clock is not received.

13. (original): The information processing terminal system according to claim 9, wherein said information processing terminal comprises:

an interface; and

a control unit configured to receive the reception data through said interface from said baseband processing section, and to output the transmission data to said baseband processing section through said interface,

said transmitting and receiving unit further comprises a clock generator,

said transmission and reception processing section generates and outputs a reference signal having a frequency to said clock generator,

said clock generator recovers a carrier of the reception modulation wave signal based on the reference signal from said transmission and reception processing section to output to the demodulation section, and generates and outputs a reception symbol clock to said baseband processing section, said interface and said control unit as a clock,

said reception symbol clock is synchronous with the reference signal, and

said demodulation section, said baseband processing section, said interface and the control unit operate in synchronization with the reception symbol clock.

14. (original): The information processing terminal system according to claim 9, wherein said information processing terminal comprises:

an interface; and

a control unit configured to receive the reception data through said interface from said baseband processing section, and to output the transmission data to said baseband processing section through said interface,

said transmitting and receiving unit further comprises a clock generator, and

said clock generator generates a clock through self-oscillation to output to said baseband processing section, said interface and said control unit.

15. (original): The information processing terminal system according to claim 9, wherein said information processing terminal comprises:

an interface; and

a control unit configured to receive the reception data through said interface from said baseband processing section, and to output the transmission data to said baseband processing section through said interface,

said transmitting and receiving unit further comprises a clock generator, and

said clock generator generates a clock through self-oscillation to output to said baseband processing section, said interface and said control unit.

16. (original): An information processing terminal system comprising:

an information processing terminal; and

a transmitting and receiving unit which can be attached to and detached from said information processing terminal,

wherein said transmitting and receiving unit comprises a transmission and reception processing section, a demodulation section, a modulation section and a baseband processing section,

when said transmitting and receiving unit is attached to said information processing terminal, said transmission and reception processing section outputs a reception modulation wave signal from a network to said demodulation section and transmits a transmission modulation wave signal from said modulation section to said network,

said demodulation section converts the reception modulation wave signal from said transmission and reception processing section into a reception analog baseband signal,

said baseband processing section converts the reception analog baseband signal into a reception digital baseband signal and converts a transmission digital baseband signal from said information processing terminal into a transmission analog baseband signal,

said modulation section converts the transmission analog baseband signal into a transmission modulation wave signal, and

said information processing terminal converts the reception digital baseband signal from said baseband processing section into a reception data and converts a transmission data into the transmission digital baseband signal.

17. (original): A transmitting and receiving method in an information processing terminal system in which a detachable transmitting and receiving unit is attached to an information processing terminal, comprising:

(a) in said transmitting and receiving unit, demodulating a reception modulation wave signal from a network to convert into a reception analog baseband signal;

(b) in said transmitting and receiving unit, converting the reception analog baseband signal into a reception digital signal containing a reception data in synchronization with a clock;

(c) in said information processing terminal, receiving the reception digital signal in synchronization with a clock;

(d) in said information processing terminal, sending a transmission digital signal containing a transmission data in synchronization with the clock;

(e) in said transmitting and receiving unit, converting the transmission digital signal into a transmission analog baseband signal in synchronization with the clock;

(f) in said transmitting and receiving unit, converting the transmission analog baseband signal into a transmission modulation wave signal; and

(g) in said transmitting and receiving unit, transmitting the converted transmission modulation wave signal to the network.

18. (original): The transmitting and receiving method in the information processing terminal system according to claim 17, wherein said (b) comprises (b1) in said transmitting and receiving unit, converting the reception analog baseband signal into a reception digital baseband signal as the reception digital signal,

said (c) comprises (c1) in said information processing terminal, converting the reception digital baseband signal into the reception data,

said (d) comprises (d1) in said information processing terminal, converting the transmission data into a transmission digital baseband signal as the transmission digital signal, and

said (e) comprises (e1) in said transmitting and receiving unit, converting the transmission digital baseband signal into the transmission analog baseband signal.

19. (original): The transmitting and receiving method in the information processing terminal system according to claim 17, wherein said (b) comprises (b2) in said transmitting and receiving unit, converting the reception analog baseband signal into the reception data as the reception digital signal,

said (c) comprises (c2) in said information processing terminal, receiving the reception data,

said (d) comprises (d2) in said information processing terminal, outputting the transmission data as the transmission digital signal to said transmitting and receiving unit, and

said (e) comprises (e2) in said transmitting and receiving unit, converting the transmission data into the transmission analog baseband signal.

20. (original): A transmitting and receiving method in an information processing terminal system in which a detachable transmitting and receiving unit is attached to an information processing terminal, comprising:

(h) in said transmitting and receiving unit, demodulating a reception modulation wave signal from a network to convert into a reception analog baseband signal;

(i) in said transmitting and receiving unit, converting the reception analog baseband signal into a reception digital baseband signal;

(j) in said information processing terminal, converting the reception digital baseband signal into a reception data;

(k) in said information processing terminal, converting a transmission data into a transmission digital baseband signal;

(l) in said transmitting and receiving unit, converting the transmission digital baseband signal into a transmission analog baseband signal;

(m) in said transmitting and receiving unit, converting the transmission analog baseband signal into a transmission modulation wave signal; and

(n) in said transmitting and receiving unit, transmitting the transmission modulation wave signal to the network.

21. (original): A transmitting and receiving unit in an information processing terminal system having an information processing terminal and said detachable transmitting and receiving unit which can be attached to or detached from said information processing terminal, comprising a transmission and reception processing section, a demodulation section, an modulation section and a baseband processing section,

wherein when said transmitting and receiving unit is attached to said information processing terminal, said transmission and reception processing section outputs a reception modulation wave signal from a network to said demodulation section and transmits a transmission modulation wave signal from said modulation section to said network,

said demodulation section converts the reception modulation wave signal from said transmission and reception processing section into a reception analog baseband signal,

said baseband processing section converts the reception analog baseband signal into a reception digital signal to output to said information processing terminal, and converts a transmission digital signal from said information processing terminal into a transmission analog baseband signal,

said modulation section converts the transmission analog baseband signal into the transmission modulation wave signal,

said baseband processing section and said information processing terminal operate in synchronization with a clock, and

said reception digital signal contains a reception data and the transmission digital signal contains a transmission data.

22. (original): The transmitting and receiving unit according to claim 21, wherein said baseband processing section converts the reception analog baseband signal into a reception digital baseband signal as the reception digital signal to output to said information processing

terminal, and converts a transmission digital baseband signal as the transmission digital signal from said information processing terminal into the transmission analog baseband signal, and

said information processing terminal converts the reception digital baseband signal from said baseband processing section into the reception data and converts the transmission data into the transmission digital baseband signal.

23. (original): The transmitting and receiving unit according to claim 21, wherein said baseband processing section converts the reception analog baseband signal into the reception data as the reception digital signal to output to said information processing terminal, and the transmission data as the transmission digital signal from said information processing terminal into the transmission analog baseband signal.

24. (original): An information processing terminal in an information processing terminal system comprising said information processing terminal and a transmitting and receiving unit which can be attached to or detached from said information processing terminal,

wherein said transmitting and receiving unit comprises a transmission and reception processing section, a demodulation section, a modulation section and a baseband processing section,

when said transmitting and receiving unit is attached to said information processing terminal, said transmission and reception processing section outputs a reception modulation

wave signal from a network to said demodulation section and transmits a transmission modulation wave signal from said modulation section to said network,

said demodulation section converts the reception modulation wave signal from said transmission and reception processing section into a reception analog baseband signal,

said baseband processing section converts the reception analog baseband signal into a reception digital signal to output to said information processing terminal and converts a transmission digital signal from said information processing terminal into a transmission analog baseband signal,

said modulation section converts the transmission analog baseband signal into a transmission modulation wave signal,

said baseband processing section and said information processing terminal operate in synchronization with the clock, and

the reception digital signal contains a reception data and the transmission digital signal contains a transmission data.

25. (original): The information processing terminal according to claim 24, wherein said baseband processing section converts the reception analog baseband signal into a reception digital baseband signal as the reception digital signal to output to said information processing terminal, and converts a transmission digital baseband signal as the transmission digital signal from said information processing terminal into the transmission analog baseband signal, and

said information processing terminal converts the reception digital baseband signal from said baseband processing section into the reception data and converts the transmission data into the transmission digital baseband signal.

26. (original): The information processing terminal according to claim 24, wherein said baseband processing section converts the reception analog baseband signal into the reception data as the reception digital signal to output to said information processing terminal, and converts the transmission data as the transmission digital signal from said information processing terminal into the transmission analog baseband signal.

27. (original): A transmitting and receiving unit in an information processing terminal system comprising an information processing terminal and said transmitting and receiving unit which can be attached to or detached from said information processing terminal, wherein said transmitting and receiving unit comprises a transmission and reception processing section, a demodulation section, an modulation section and a baseband processing section,

when said transmitting and receiving unit is attached to said information processing terminal, said transmission and reception processing section outputs a reception modulation wave signal from a network to said demodulation section and transmits a transmission modulation wave signal from said modulation section to said network,

said demodulation section converts the reception modulation wave signal from said transmission and reception processing section into a reception analog baseband signal,

said baseband processing section converts the reception analog baseband signal into a reception digital baseband signal and converts a transmission digital baseband signal from said information processing terminal into a transmission analog baseband signal, and

said modulation section converts the transmission analog baseband signal into the transmission modulation wave signal.

28. (original): An information processing terminal in an information processing terminal system comprising said information processing terminal and a transmitting and receiving unit which can be attached to or detached from said information processing terminal,

wherein said transmitting and receiving unit comprises a transmission and reception processing section, a demodulation section, an modulation section and a baseband processing section,

when said transmitting and receiving unit is attached to said information processing terminal, said transmission and reception processing section outputs a reception modulation wave signal from a network to said demodulation section and transmits a transmission modulation wave signal from said modulation section to said network,

said demodulation section converts the reception modulation wave signal from said transmission and reception processing section into a reception analog baseband signal,

said baseband processing section converts the reception analog baseband signal into a reception digital baseband signal and converts a transmission digital baseband signal from said information processing terminal into a transmission analog baseband signal,

said modulation section converts the transmission analog baseband signal into the transmission modulation wave signal, and

said information processing terminal converts the reception digital baseband signal from said baseband processing section into the reception data and converts a transmission data into the transmission digital baseband signal.

29. (previously presented): A radio system comprising:

a radio unit; and

a signal processing unit provided separately from said radio unit,

wherein said radio unit comprises:

a reception signal converting circuit configured to generate a reception digital signal from a reception radio signal;

a clock generating circuit configured to generate a clock; and

a first interface configured to operate in response to said clock, and

said signal processing unit comprises:

a second interface connected with said first interface and configured to operate in response to said clock; and

a demodulation section configured to demodulate said reception digital signal supplied through said first and second interfaces.

30. (previously presented): The radio system according to claim 29, wherein said reception signal converting circuit operates in response to said clock.

31. (previously presented): The radio system according to claim 30, wherein said demodulation section operates in response to said clock.

32. (previously presented): The radio system according to claim 29, wherein said signal processing unit further comprises:

a supply circuit configured to supply a transmission digital signal to said radio unit through said second interface, and

said radio unit further comprises:

a transmission signal converting circuit configured to generate said a transmission radio signal from said transmission digital signal supplied through said first and second interfaces.

33. (previously presented): The radio system according to claim 32, wherein said supply circuit operates in response to said clock.

34. (previously presented): The radio system according to claim 33, wherein said transmission signal converting circuit operates in response to said clock.

35. (previously presented): The radio system according to claim 31, wherein said signal processing unit further comprises:

a supply circuit configured to supply a transmission digital signal to said radio unit through said second interface, and

said radio unit further comprises:

a transmission signal converting circuit configured to generate said a transmission radio signal from said transmission digital signal supplied through said first and second interfaces.

36. (previously presented): The radio system according to claim 35, wherein said supply circuit operates in response to said clock.

37. (previously presented): The radio system according to claim 36, wherein said transmission signal converting circuit operates in response to said clock.

38. (previously presented): The radio system according to claim 29, wherein one of said first and second interfaces has a parallel bit converting function.

39. (previously presented): A radio system comprising:

a radio unit; and

a signal processing unit provided separately from said radio unit,

wherein said signal processing unit comprises:

a clock generating circuit configured to generate a clock,
said radio unit comprises:
a reception signal converting circuit configured to generate a reception digital signal from
a reception radio signal; and
a first interface configured to operate in response to said clock, and
said signal processing unit further comprises:
a second interface connected with said first interface and configured to operate in
response to said clock; and
a demodulation section configured to demodulate said reception digital signal supplied
through said first and second interfaces.

40. (previously presented): The radio system according to claim 39, wherein said
reception signal converting circuit operates in response to said clock.

41. (previously presented): The radio system according to claim 40, wherein said
demodulation section operates in response to said clock.

42. (previously presented): The radio system according to claim 39, wherein said signal
processing unit further comprises:

a supply circuit configured to supply a transmission digital signal to said radio unit
through said second interface, and

said radio unit further comprises:

a transmission signal converting circuit configured to generate said a transmission radio signal from said transmission digital signal supplied through said first and second interfaces.

43. (previously presented): The radio system according to claim 42, wherein said supply circuit operates in response to said clock.

44. (previously presented): The radio system according to claim 43, wherein said transmission signal converting circuit operates in response to said clock.

45. (previously presented): The radio system according to claim 41, wherein said signal processing unit further comprises:

a supply circuit configured to supply a transmission digital signal to said radio unit through said second interface, and

said radio unit further comprises:

a transmission signal converting circuit configured to generate said a transmission radio signal from said transmission digital signal supplied through said first and second interfaces.

46. (previously presented): The radio system according to claim 45, wherein said supply circuit operates in response to said clock.

47. (previously presented): The radio system according to claim 46, wherein said transmission signal converting circuit operates in response to said clock.

48. (previously presented): The radio system according to claim 39, wherein one of said first and second interfaces has a parallel bit converting function.

49. (previously presented): A radio system comprising:
a radio unit; and
a signal processing unit provided separately from said radio unit,
wherein said radio unit comprises:
reception signal converting means for generating a reception digital signal from a reception radio signal;
clock generating means for generating a clock; and
first interface means for operating in response to said clock, and
said signal processing unit comprises:
second interface means connected with said first interface means for operating in response to said clock; and
demodulation means for demodulating said reception digital signal supplied through said first and second interface means.

50. (previously presented): A radio system comprising:

- a radio unit; and
- a signal processing unit provided separately from said radio unit,

wherein said signal processing unit comprises: clock generating means for generating a clock, said radio unit comprises:

- reception signal converting means for generating a reception digital signal from a reception radio signal; and
- first interface means for operating in response to said clock, and

said signal processing unit further comprises:

- a second interface means connected with said first interface, for operating in response to said clock; and
- demodulation means for demodulating said reception digital signal supplied through said first and second interfaces.